Health Care Provider Advice for Adolescent Tobacco Use: Results From the 2011 National Youth Tobacco Survey

WHAT’S KNOWN ON THIS SUBJECT: Cigarette smoking during adolescence causes significant health problems. Health care providers play an important role in promoting tobacco use abstinence among adolescents, but recent data on the prevalence of provider screening and advice to adolescents are lacking.

WHAT THIS STUDY ADDS: This study uses nationally representative surveillance data to provide current estimates of self-reported receipt of health professional screening and advice about tobacco use among US adolescents. Cessation behaviors and correlates of past-year quit attempts among smokers were also explored.

BACKGROUND: Health care providers play an important role in promoting tobacco use abstinence among adolescents. This study aimed to provide nationally representative data on the prevalence of provider tobacco use screening and advice delivered to adolescents. Cessation behaviors and correlates of past year quit attempts among current smokers are also explored.

METHODS: Data came from the 2011 National Youth Tobacco Survey, a nationally representative school-based survey of adolescents in grades 6 through 12 (n = 18,385). Provider screening and advice were assessed by smoking status and demographic characteristics. Logistic regression was used to assess the association between advice and past year quit attempt.

RESULTS: The overall prevalence of current tobacco use was 16.6%; 10.8% were current cigarette smokers (3.6% were established smokers, 7.2% were nonestablished smokers); 17.3% were former smokers; and 71.9% were never smokers (22.6% high susceptibility, 77.4% low susceptibility). Among all respondents, the prevalence of being asked about tobacco use by a health care provider was 32.2%; the prevalence of being advised to quit or avoid tobacco was 31.4%. Established smokers were more likely than other groups to report provider assessment of tobacco use and advice. Receipt of advice was associated with a higher adjusted odds of having made a past year quit attempt (odds ratio: 1.47, 95% confidence interval: 1.18–1.82).

CONCLUSIONS: Less than one-third of adolescents report being asked about tobacco use or being advised not to use tobacco. Increased tobacco use intervention by health care providers is needed to prevent initiation and increase cessation. Pediatrics 2014;134:446–455

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KEY WORDS: tobacco use cessation, smoking cessation, counseling, adolescent, questionnaires

ABBREVIATIONS
CI — confidence interval
NYTS — National Youth Tobacco Survey
OR — odds ratio

Ms Schauer helped conceptualize and design the study, interpreted data, and drafted the article; Dr Agaku conducted the data analyses, helped interpret the data, and edited and revised the article and tables; Dr King helped design the surveillance instrument and acquire the data, helped interpret the data, and edited and revised the article and tables; Dr Malarcher helped conceptualize and design the study and edited and revised the article and tables; and all authors approved the final manuscript as submitted.

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prevention, and cessation approaches is needed. Tobacco use and cigarette smoking initiation occur primarily during adolescence and continue into young adulthood. Each year, nearly 400,000 youth under age 18 years smoke their first cigarette, with about a quarter of those individuals becoming new daily smokers. Cigarette smoking during adolescence causes significant health problems, both during adolescence and, with continued smoking, across the life course. Therefore, adolescence represents a critical time period for tobacco cessation with the goal of preventing more established or long-term tobacco use behaviors.

The prevalence of youth tobacco use has decreased over the past decade, suggesting that tobacco control policies and programs have been effective in reducing and preventing tobacco use. However, the use of smokeless tobacco has not changed in recent years, and declines in cigarette smoking have slowed; nearly a quarter of high school students and nearly 1 of 12 middle school students reported past month tobacco use in 2011. Continued implementation of evidence-based prevention and cessation approaches is needed. Coordinated, multicomponent interventions that include mass media campaigns, comprehensive community and statewide tobacco control programs, price increases, and school-based policies have been shown to be effective in reducing initiation, prevalence, and the intensity of youth smoking. Interventions delivered by primary health care providers can also play an important role in prevention and cessation. Research suggests that adolescents view physicians as a preferred source of smoking cessation information, and between 68% and 84% of adolescents under age 18 years report seeing a doctor at least annually.

Accordingly, a number of national guidelines recommend that health care providers offer adolescents tobacco use screening, education, and counseling during their annual visit. A majority of practice guidelines recommend that clinicians ask pediatric and adolescent patients about tobacco use, provide advice to abstain from tobacco use, and provide counseling interventions to help those who use tobacco to quit. Tobacco cessation medications are not currently recommended for use in adolescents because of insufficient evidence for or against their effectiveness.

Data from the 2000 National Youth Tobacco Survey (NYTS) indicate that only one-third of adolescents who visited a physician in the previous year reported receiving preventive advice about the dangers of tobacco, and only 16.4% of adolescents who smoked in the past year reported receiving advice from a physician to quit, those who were established smokers were significantly more likely to receive both preventive and cessation advice. To our knowledge, no study has assessed more recent data on the self-reported prevalence of health care provider advice for tobacco prevention and cessation among US adolescents. Therefore, we assessed the prevalence of self-reported receipt of health professional screening and advice about tobacco use using data from the 2011 NYTS. Cessation behaviors and correlates of past year quit attempts among smokers were also explored.

**METHODS**

**Sample**

Data were obtained from the 2011 NYTS, a nationally representative survey of US students enrolled in grades 6 through 12. Students completed a self-administered survey in a classroom setting. The target population consists of public and private school students in the 50 states and the District of Columbia. A total of 18,866 respondents completed the 2011 NYTS, yielding a response rate of 72.7%. For the purposes of these analyses, only those who responded to questions about smoking and health professional screening and advice were included, yielding a sample of 18,094. Additional information about the survey design and sampling methodology of NYTS can be found elsewhere.

**Measures**

**Tobacco Use and Smoking Status**

Current tobacco use was defined by asking: “During the past 30 days, on how many days did you [smoke cigarettes, smoke cigars/cigarillos/little cigars, use chewing tobacco/snuff/dip]?” In addition, students were asked: “During the past 30 days, which of the following products did you use on at least 1 day: role-your-own cigarettes, flavored cigarettes, clove cigars, flavored little cigars, hookah or waterpipe, snus, dissolvable tobacco products, electronic cigarettes, or other products.” Those reporting ≥1 days of use of any of the above products in the past 30 were considered current tobacco users. Polytobacco users were those who reported current use of cigarettes and at least one other tobacco product. Current smoking status was assessed by the question, “During the past 30 days, on how many days did you smoke cigarettes?” Those reporting they smoked ≥20 of the past 30 days were considered established smokers; those reporting they smoked between 1 and 19 of the past 30 days were considered nonestablished smokers. Former smoking was assessed by asking students, “When was the last time you smoked a cigarette, even 1 or 2 puffs?” Those who last smoked ≥30 days ago were considered former smokers. Never smokers were those who reported that they had never smoked, not even 1 or 2 puffs. Never smokers were further classified into those with high susceptibility and those with low susceptibility to future smoking using the following 2 questions:

- **Question:** “How many days did you [smoke cigarettes, smoke cigars/cigarillos/little cigars, use chewing tobacco/snuff/dip]?”
- **Question:** “During the past 30 days, on how many days did you [smoke cigarettes, smoke cigars/cigarillos/little cigars, use chewing tobacco/snuff/dip]?”
RESULTS

Smoking Status

The overall prevalence of current tobacco use was 16.6% (95% confidence interval [CI]: 14.7–18.5), 10.8% were current cigarette smokers (95% CI: 9.2–12.5), 3.6% were established smokers and 7.2% were nonestablished smokers, 17.3% were former smokers, and 71.9% were never smokers (22.6% high susceptibility and 77.4% low susceptibility, Table 1). The prevalence of established smokers was higher among high school versus middle school students, and white, non-Hispanics compared with black, non-Hispanics, and increased with age. The prevalence of nonestablished smokers was higher among high school students and Hispanic students and increased with age. The prevalence of former smokers was higher among high school students, among Hispanic students compared with white, non-Hispanic students and those of other races, and increased with age. The prevalence of high-susceptibility never smokers was higher among those ages 13–14 and 15–16 compared with those ≤12 or ≥17 years old and among those who were African American, non-Hispanic, or other non-Hispanic races compared with those who were white or Hispanic (Table 1).

Health Professional Screening/Advice

Health professional screening was assessed by the question, “During the past 12 months, did any doctor, dentist, or nurse ask you if you use tobacco of any kind?” with response options “Yes,” “No,” and “I did not see a doctor, dentist, or nurse during the past 12 months.” Those responding that they had not seen a health professional in the past 12 months (8.4% of the sample for the screening question) were excluded from analyses assessing or including the health professional screening variable Those who saw a health professional in the past year did not differ significantly from those who did by school level or current any tobacco use, but differed significantly by race/ethnicity (a lower percentage of Hispanics and “Other” race saw a health professional), age (a lower percentage of those age 17 years and older saw a health professional), and gender (a lower percentage of males saw a health professional; data not shown).

Health professional advice was assessed by asking students, “During the past 12 months, did any doctor, dentist, or nurse advise you not to use tobacco of any kind?” with the same response options as the screening question. Again, those responding that they had not seen a health professional in the past 12 months (8.7% of the sample for the advice question) were excluded from analyses in Tables 1, 2, and 3. Never smokers were included in questions about health professional screening and advice because preventive advice about abstaining from tobacco is recommended by current national guidelines.17

Cessation Intentions, Behaviors, and Treatment

Among current smokers, the following items were also assessed: planning to quit smoking for good, the number of past quit attempts in the past year, the length of the past quit attempt, and the use of cessation treatment during the past 12 months.

Sociodemographic Characteristics

Sociodemographic characteristics included gender (male or female), school level (middle school or high school), age (≤12, 13–14, 15–16, ≥17 years), and race/ethnicity (white, non-Hispanic; black, non-Hispanic; other, non-Hispanic; and Hispanic). Grades 6 through 8 were considered middle school; grades 9 through 12 were considered high school.

Data Analysis

Health professional screening and advice was examined by demographic characteristics among all tobacco users and within each smoking status category (established, nonestablished, former, high susceptibility never smoker, low susceptibility never smoker). Within-group comparisons were made by using χ2 statistics and by assessing confidence intervals.

Cessation intentions and behaviors were also examined among established and nonestablished current smokers. Logistic regression models were constructed to assess the association between health professional counseling (ask and/or advise) and past year quit attempt (yes/no), adjusting for gender, school level, age, race/ethnicity, smoking frequency (established/nonestablished), and polytobacco use. All statistical tests were 2-tailed, and the level of statistical significance set at P < .05. Data were weighted and analyses performed with Stata version 11 (StataCorp, College Station, TX).
TABLE 1  Distribution of Tobacco Use and Cigarette Smoking Status by Demographic Characteristics Among US Middle and High School Students

| Characteristic          | Any Tobacco Use | Cigarette Smoking (n = 18 844)
|-------------------------|-----------------|-----------------------------|
|                         | Any Current Tobacco Use $^a$ (n = 2981), % (95% CI) | Established Smoker $^c$ (n = 1353), % (95% CI) | Nonestablished Smoker $^d$ (n = 3420), % (95% CI) | Former Smoker $^e$ (n = 2988), % (95% CI) | Never Smoker; HS $^f$ (n = 9721), % (95% CI) | Never Smoker; LS ($n = 49$)
|                         | 16.6 (14.7–18.5) | 7.2 (6.2–8.1) | 17.3 (15.9–18.8) | 22.6 (21.3–24.0) | 77.4 (76.0–78.7)
| Gender                  |                |                |                |                |                |                |
| Female                  | 12.5 (10.8–14.3) | 6.7 (5.6–7.7)  | 16.2 (14.4–17.9) | 22.9 (21.1–24.7) | 77.1 (75.3–78.9)
| Male                    | 19.2 (17.0–21.5) | 7.6 (6.5–8.7)  | 16.9 (15.4–18.3) | 22.4 (20.7–24.1) | 77.6 (75.9–78.3)
| School level            |                |                |                |                |                |                |
| Middle school           | 6.8 (5.9–7.8)   | 3.3 (2.7–4.0)  | 9.9 (8.7–11.2)  | 21.8 (20.0–23.5) | 78.2 (76.5–80.0)
| High school             | 22.8 (20.4–25.1) | 10.1 (8.8–11.4) | 21.6 (19.8–23.3) | 23.8 (21.9–25.8) | 76.2 (74.2–78.1)
| Age Group (y)           |                |                |                |                |                |                |
| ≤12                     | 4.1 (3.1–5.2)   | 0.8 (0.4–1.2)  | 1.7 (1.1–2.3)   | 5.0 (3.8–6.2)    | 17.5 (15.1–19.9) | 82.5 (80.1–84.9)
| 13–14                   | 9.4 (8.0–10.8)  | 1.1 (0.7–1.6)  | 4.9 (4.0–5.8)   | 13.4 (11.8–15.1) | 25.5 (23.4–27.5) | 74.5 (72.5–76.8)
| 15–16                   | 19.5 (16.8–22.2) | 4.3 (3.1–5.5)  | 9.2 (7.6–10.7)  | 20.4 (18.5–22.3) | 25.4 (23.1–27.6) | 74.6 (72.4–76.9)
| ≥17                     | 29.6 (26.9–32.3) | 8.3 (6.5–10.2) | 12.1 (10.6–13.7) | 24.9 (22.6–27.1) | 19.9 (17.2–22.6) | 80.1 (77.4–82.8)
| Race/Ethnicity          |                |                |                |                |                |                |
| White, Non–Hispanic     | 17.1 (14.4–17.9) | 4.3 (3.0–5.6)  | 7.3 (6.0–8.6)   | 14.9 (13.1–16.7) | 17.5 (15.1–19.9) | 82.5 (80.1–84.9)
| Black, Non–Hispanic     | 13.5 (10.7–15.9) | 2.0 (1.2–2.9)  | 5.7 (4.2–7.3)   | 19.0 (16.4–21.6) | 25.5 (23.4–27.5) | 74.5 (72.5–76.8)
| Other, Non–Hispanic     | 9.6 (6.8–12.3)  | 2.6 (1.4–3.7)  | 4.4 (2.6–6.1)   | 13.2 (9.9–16.6)  | 25.4 (23.1–27.6) | 74.6 (72.4–76.9)
| Hispanic                | 16.3 (14.8–17.7) | 3.0 (2.3–3.7)  | 8.6 (7.5–9.6)   | 20.8 (18.9–22.8) | 19.9 (17.2–22.6) | 80.1 (77.4–82.8)

HS, high susceptibility; LS, low susceptibility.
$^a$ The analytic sample for this study was n = 18 858; 291 of these respondents were excluded from the analysis of cigarette smoking because of missing or inconsistent responses.
$^b$ Any current tobacco use includes any use of cigarettes, cigars/cigarillos/little cigars, smokeless tobacco products, pipes, hookah or water pipe, bidis, kreteks, and e-cigarettes during the past 30 days.
$^c$ Smoked ≥20 of the past 30 days.
$^d$ Smoked between 1 and 19 of the past 30 days.
$^e$ Did not smoke in the past 30 days but smoked within the past 5 years.
$^f$ Never smokers with HS to smoking were defined as those who responded in any way other than “definitely not” to 1 or both of the following questions: “At any time during the next 12 months, do you think you will smoke a cigarette?” or “If one of your best friends offered you a cigarette, would you smoke it?”
$^g$ Never smokers with LS to smoking were those who responded “definitely not” to the questions in footnote f.
and 37.3% reported being advised to quit tobacco (Table 2). Among current, former, and never smokers, the prevalence of being asked about tobacco use was highest among established smokers (65.3%), followed by nonestablished smokers (43.9%), former smokers (38.6%), never smokers with high susceptibility (37.7%), and never smokers with low susceptibility (28.6%). The prevalence of health professional advice to quit or avoid tobacco use was highest among established smokers (52.6%), followed by never smokers with high susceptibility (33.2%), former smokers (32.8%), nonestablished smokers (32.6%), and never smokers with low susceptibility (30.2%; Table 2). Approximately 20.8% of students reported being both asked and advised. ~10.5% indicated they were advised but not asked.

Among all current tobacco users, the prevalence of being asked about tobacco use was significantly higher among high school than middle school students and increased with age (Table 2). Similar patterns were also observed among the other subgroups except nonestablished smokers. Another significant difference in being asked about tobacco use was among established smokers — female respondents (74.9%) were more likely than male respondents (58.4%) to report being asked. Within each category of tobacco use status, advice about tobacco use did not vary by any demographic characteristics.

**Cessation Intentions and Behaviors**

More than two-thirds of established smokers were polytobacco users (71.0%) versus 58.3% of nonestablished smokers. When asked about cigarette smoking, nearly one-fifth of nonestablished smokers reported they were planning to quit smoking for good within the next 7 or 30 days (10.1% and 9.4%, respectively), compared with 8% of established smokers (3.3% within the next 7 days, 4.7% within the next 30 days; Table 3). Prevalence of established and nonestablished smokers who had made at least 1 quit attempt in the past year was similar (59.2% vs. 59.6%). Of those who tried to quit in the past year, established smokers made fewer quit attempts than nonestablished smokers. Among established smokers, the majority of quit attempts lasted a week or less (62.4%), whereas the majority of nonestablished smokers’ quit attempts lasted longer than a week (66.0%).

**Cessation Treatment**

Established and nonestablished smokers were similar in their use of any cessation treatment during their last cigarette smoking quit attempt (17.3% used at least 1 treatment resource vs 18.6%, respectively). A higher percentage of established smokers reported using medication compared with nonestablished smokers (14.3% vs 7.7%). Getting help from family and friends was the second most common cessation resource used (9.3% established smokers vs 4.9% nonestablished smokers). Compared with nonestablished smokers, a higher percentage of established smokers who tried to quit in the past year reported that a health professional either asked about or advised them to quit tobacco (75.3% vs 53.7%, respectively; Table 3).

**Correlates of Past Year Attempts to Quit Smoking**

Among current smokers, receipt of health professional counseling (ask or advise) was associated with higher unadjusted odds of having made a past year quit attempt to quit smoking (odds ratio [OR] = 1.39, 95% confidence interval [CI]: 1.15–1.68; Table 4). The association remained after adjusting for sociodemographic characteristics, smoker type, and polytobacco use (adjusted OR = 1.47, 95% CI: 1.18–1.82; Table 4). Type of smoker (established or nonestablished) and polytobacco use were not significant correlates of trying to quit smoking at least once in the past year. In the adjusted model, the only other significant correlate of having made a past year quit attempt was race/ethnicity, with black, non-Hispanics having a higher adjusted odds of having made a past year quit attempt than white, non-Hispanics (adjusted OR = 2.03, 95% confidence interval: 1.24–3.32).

**DISCUSSION**

This study analyzed nationally representative data to assess the prevalence of health professionals asking about tobacco use and advising US middle and high school students to quit. Among all students who reported seeing a health care provider in the past year, less than one-third reported being asked by a health professional about tobacco use or receiving advice to quit or avoid tobacco, and among all current tobacco users who saw a provider in the past year, less than half reported being asked about tobacco use or advised to quit. Applying our findings to the population level, this suggests that >6.6 million youth and adolescents who currently use tobacco or are at high risk for future smoking did not receive advice from their health care provider to quit or avoid tobacco.

The prevalence of being asked and advised was highest among established smokers, but only slightly more than one-half of adolescents who smoked >20 of the past 30 days reported receiving advice to quit. Only 44% of nonestablished smokers reported being asked about tobacco use, and less than one-third reported being advised to quit. Even fewer former and never smokers reported being asked about tobacco use. A small percentage of those who reported being advised not to use tobacco did not report being asked by a provider if they were tobacco users or not. This may be because health care providers are offering a generic message about avoiding tobacco products,
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Any Tobacco Use (n = 2510)</th>
<th>Established Smokers (n = 484)</th>
<th>Nonestablished Smokers (n = 1152)</th>
<th>Former Smokers (n = 297)</th>
<th>Never Smokers, HS (n = 2645)</th>
<th>Never Smokers, LS (n = 849)</th>
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<td></td>
<td>Ask, % (95% CI)</td>
<td>Advise, % (95% CI)</td>
<td>Ask, % (95% CI)</td>
<td>Advise, % (95% CI)</td>
<td>Ask, % (95% CI)</td>
<td>Advise, % (95% CI)</td>
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<td>≤ 12</td>
<td>54.0 (29.1 – 61.6)</td>
<td>57.0 (23.2 – 50.7)</td>
<td>58.0 (31.4 – 48.2)</td>
<td>38.8 (18.4 – 59.2)</td>
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<td>54.1 (33.3 – 44.1)</td>
<td>47.0 (30.7 – 64)</td>
<td>54.0 (56.4 – 66.5)</td>
<td>32.7 (24.2 – 39.5)</td>
<td>29.9 (26.3 – 35.5)</td>
<td>34 (29.1 – 38.9)</td>
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<td>15–16</td>
<td>51.1 (38.8 – 64.6)</td>
<td>63.1 (53.9 – 72)</td>
<td>57.6 (48.8 – 66.8)</td>
<td>39.9 (33.5 – 46.1)</td>
<td>4.0 (36.4 – 47)</td>
<td>31.2 (27.3 – 35.2)</td>
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<td>≥ 17</td>
<td>54.4 (50.3 – 58.5)</td>
<td>61.8 (32.7 – 45.9)</td>
<td>59.9 (61.7 – 78.3)</td>
<td>48.8 (41.3 – 55.7)</td>
<td>49.9 (41.3 – 51.3)</td>
<td>34.8 (30.3 – 39.2)</td>
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<tr>
<td>White, non-Hispanic</td>
<td>52.2 (46.7 – 55.6)</td>
<td>57.4 (33.3 – 41.9)</td>
<td>67.2 (64.2 – 72.2)</td>
<td>54.6 (48.8 – 60.3)</td>
<td>—</td>
<td>30.9 (26.2 – 35.9)</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>40.2 (34.6 – 45.7)</td>
<td>38.2 (30.8 – 45.7)</td>
<td>59.1 (45.6 – 72)</td>
<td>44.9 (29.3 – 60.5)</td>
<td>37.8 (27.0 – 46.0)</td>
<td>38.6 (29.1 – 48.2)</td>
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<td>Other, non-Hispanic</td>
<td>46.2 (32.5 – 60.0)</td>
<td>38.2 (23.6 – 52.8)</td>
<td>65.3 (60.9 – 70.4)</td>
<td>45.4 (14.2 – 76.7)</td>
<td>54.7 (40.0 – 68.3)</td>
<td>30.6 (16.1 – 45.2)</td>
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<td>Hispanic</td>
<td>42.4 (38.3 – 46.5)</td>
<td>36.6 (13.9 – 41.4)</td>
<td>59.5 (49.0 – 69.3)</td>
<td>48.4 (38.3 – 58.5)</td>
<td>41.2 (35.9 – 46.6)</td>
<td>35.0 (29.0 – 41.1)</td>
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HS, high susceptibility; LS, low susceptibility.

* Among respondents who reported seeing a health professional in the past 12 months.

* The analytic sample for this study was n = 18,994 respondents who were excluded from the analysis of cigarette smoking because of missing or inconsistent responses. Among the remaining 18,994 respondents, 2,347 were excluded from the analysis of ask/advice behaviors because they reported not seeing a doctor within the past 12 months or they provided conflicting responses about seeing a doctor when answering the “ask” and “advise” questions.

* Any current tobacco use includes any use of cigarettes, cigars/cigarillos/little cigars, smokeless tobacco products, pipes, hookah or water pipe, bidis, kreteks, and e-cigarettes during the past 30 days.

* Smoked ≥ in 20 of the past 30 days.

* Smoked between 1 and 19 of the past 30 days.

* Did not smoke in the past 30 days but smoked within the past 5 years.

* Never smokers with HS to smoking were defined as those who responded in any way other than “definitely not” to one or both of the following questions: “At any time during the next 12 months, do you think you will smoke a cigarette?” or “If one of your best friends offered you a cigarette, would you smoke it?”

* Estimate not shown because relative standard errors ≥50%.
regardless of use behaviors, or it may be that students simply could not recall providing information about their tobacco use.

Advice to established smokers may be higher than advice to other groups for a number of reasons. First, established smokers may be more likely to recall the provision of advice or may be interested in quitting and thus bring up the topic for discussion with their health care provider. Second, health care providers who suspect, or are aware that an adolescent is a smoker may be more likely to administer tobacco counseling to these individuals. Reporting smoking on health history forms may serve as a prompt for health professionals to talk to patients about smoking.

Identification of adolescent smokers is difficult because their self-reports of tobacco use may be less accurate than adults; adolescents are more likely to underreport tobacco use out of fear of parental sanctions or motivation by social desirability. Third, infrequent or non-daily smokers may not consider themselves to be smokers and thus may decide that a question about tobacco use during clinical history does not apply to them. Health care provider training and systems changes may be needed to ensure that screening questions ask all adolescents about tobacco use behaviors (e.g., have you smoked a cigarette or used other tobacco in the past month) as opposed to asking whether they are a smoker or tobacco user.

These data suggest that although health professional counseling is a recommended preventive service, it is provided infrequently to adolescents, regardless of their current tobacco use or smoking status. This may be due to the myriad other preventive guidelines that clinicians are required to follow. Counseling rates may also be lower because limited research exists on effective cessation treatments for adolescents. Compared with other nationally representative data on adult tobacco use screening and counseling, the prevalence of clinician screening and counseling among established adolescent smokers in this study was lower (ask: 88% in adults smokers vs 65% in adolescent established smokers; advise: 66% in adult smokers vs 53% in adolescent established smokers). Prevalence of adolescent screening for and counseling about tobacco use was similar to nationally representative prevalence of screening and counseling adolescents about other preventive risk factors such as weight and hypertension.

A number of recent policy initiatives may help to promote routine tobacco use screening and cessation advice among adolescent patients. First, the Patient Protection and Affordable Care Act, passed by Congress and signed into law in 2010, covers tobacco cessation counseling for adults as a preventive service, which may provide impetus for increased adolescent tobacco-related counseling among providers who see both adults and youth. In addition, the US Preventive Services Task Force recently recommended interventions for children and adolescents by primary care providers...
TABLE 4 Unadjusted and Adjusted Correlates of Cigarette Smoking Quit Attempts Among US Middle and High School Students Who Are Current Smokers

<table>
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<tr>
<th>Characteristic</th>
<th>Unadjusted OR (95% CI)</th>
<th>Adjusted OR* (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asked and/or advised by a health professional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1.00 (referent)</td>
<td>1.00 (referent)</td>
</tr>
<tr>
<td>Yes</td>
<td>1.39 (1.15–1.68)</td>
<td>1.47 (1.18–1.82)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1.00 (referent)</td>
<td>1.00 (referent)</td>
</tr>
<tr>
<td>Male</td>
<td>0.94 (0.69–1.27)</td>
<td>0.95 (0.69–1.32)</td>
</tr>
<tr>
<td>School level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle school</td>
<td>1.00 (referent)</td>
<td>1.00 (referent)</td>
</tr>
<tr>
<td>High school</td>
<td>0.66 (0.46–0.95)</td>
<td>0.61 (0.34–1.10)</td>
</tr>
<tr>
<td>Age group (y)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 12</td>
<td>1.00 (referent)</td>
<td>1.00 (referent)</td>
</tr>
<tr>
<td>13–14</td>
<td>0.91 (0.35–2.36)</td>
<td>1.08 (0.43–2.73)</td>
</tr>
<tr>
<td>15–16</td>
<td>0.84 (0.34–2.08)</td>
<td>1.36 (0.49–3.76)</td>
</tr>
<tr>
<td>≥ 17</td>
<td>0.64 (0.27–1.52)</td>
<td>1.04 (0.37–2.95)</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>1.00 (referent)</td>
<td>1.00 (referent)</td>
</tr>
<tr>
<td>Black, non-Hispanic</td>
<td>2.10 (1.3–3.38)</td>
<td>2.03 (1.24–3.32)</td>
</tr>
<tr>
<td>Other, non-Hispanic</td>
<td>2.10 (0.88–4.84)</td>
<td>2.03 (0.85–4.85)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1.20 (0.89–1.58)</td>
<td>1.14 (0.85–1.54)</td>
</tr>
<tr>
<td>Type of smokerb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonestablished smoker</td>
<td>1.00 (referent)</td>
<td>1.00 (referent)</td>
</tr>
<tr>
<td>Established Smoker</td>
<td>1.02 (0.73–1.43)</td>
<td>1.03 (0.71–1.51)</td>
</tr>
<tr>
<td>Polytoobacco usec</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1.00 (referent)</td>
<td>1.00 (referent)</td>
</tr>
<tr>
<td>Yes</td>
<td>0.94 (0.69–1.29)</td>
<td>0.90 (0.66–1.21)</td>
</tr>
</tbody>
</table>

Current smokers were respondents who reported smoking cigarettes at least once within the past 30 days.

* Data analyzed using multivariate logistic regression; adjusted model included all characteristics listed in table.

b Nonestablished smokers were those who reported smoking <20 of the past 30 days. Established smokers were those who reported smoking ≥20 of the past 30 days.

c Polytoobacco use includes smoking of cigarettes and at least one other tobacco product in the past 30 days, including cigars/cigarillos/little cigars, smokeless tobacco products, pipes, hookah or water pipe, bidis, kreteks, and e-cigarettes.

Physicians to prevent tobacco use initiation as a grade “B” recommendation. Second, tobacco-related measures on Meaningful Use (a set of standards defined by the Centers for Medicare and Medicaid Services and governing the use of electronic health records) cover tobacco use screening for patients age 13 and older. These standards may help set a precedent for asking and advising adolescent patients.

Despite these generally low levels of tobacco-related counseling, previous data from NYTS suggest that progress has occurred, particularly among established and nonestablished smokers. In 2000, only 29.7% of established smokers and 13.2% of nonestablished smokers reported receipt of advice to quit, compared with 52.6% and 32.6% in this 2011 data, respectively. Increases in the prevalence of self-reported health professional counseling for tobacco over the past decade are encouraging and may be due to efforts to integrate health care provider cessation interventions into clinical practice through medical education, health care system changes, improved counseling and medication treatments, and health plan benefit design. In addition, the 2008 update to the US Clinical Practice Guideline on Treating Tobacco Use and Dependence recommended for the first time, based on scientific evidence, that counseling adolescents about tobacco use in a clinical setting was effective for increasing cessation. Being asked about tobacco also varied by gender, school level, and age. Among established and nonestablished smokers, patterns of health professional counseling did not necessarily follow patterns of use. For example, although a greater percentage of boys in middle school and high school report smoking cigarettes, girls reported higher rates of health professional counseling. Health care providers should offer screening and advice to all adolescents, particularly among higher risk populations.

More than half of youth who were established or nonestablished smokers reported trying to quit in the past year, with the majority trying to quit multiple times. However, even among nonestablished smokers, the past year quit attempt prevalence of 59% remains below the Healthy People 2020 goal of 64% for adolescents. In this study, receipt of health professional counseling was significantly associated with increased odds of having made a past year quit attempt. This association could be because adolescents who are interested in quitting are soliciting advice from a health professional, or it could be that health professional advice is motivating adolescent smokers to try to quit; longitudinal research is warranted to assess temporality and any causality between advice and quit attempts.

This study is subject to a number of limitations. First, we were not able to differentiate between preventive health care visits and other acute care interactions in this study. Although ideally tobacco use would be addressed at all visits, addressing it during problem-based interactions may be more challenging. Still, NYTS asks about any past-year clinician encounters; most adolescents should have had at least 1 preventive visit over the course of the year, providing an opportunity to discuss tobacco use in a preventive context. Second, we were also unable to identify the type of clinician being seen (eg, primary care, specialist, nurse). Some clinician specialists may not feel that addressing tobacco use is part of their job, despite evidence suggesting that advice from multiple types of health professionals can further increase quit attempts. Third, NYTS did not ask adolescents questions about clinician screening of exposure to secondhand
bias may have had an impact on the accuracy of data about health professional counseling. Finally, these data apply only to youths who attend school and therefore are not representative of all persons in this age group. However, 98.5% of US youth aged 10 to 13 years and 97.1% of those aged 14 to 17 years were enrolled in a traditional school in 2011, suggesting that our findings are generalizable to most middle and high school age youth.

CONCLUSIONS

Although the prevalence of self-reported health professional counseling for tobacco has improved over the past decade, more than two-thirds of adolescents, including more than half of those who were current smokers, were not asked about or advised by a health professional to avoid tobacco use. This amounts to a missed opportunity for intervention with an estimated 6.6 million youth. Health professional advice is significantly associated with past-year quit attempts and should continue to be prioritized in health care settings. By asking adolescents about their tobacco use and encouraging them not to use tobacco, health care providers can play a critical role in reducing the tobacco epidemic.

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**PROOF OF PIZZA AUTHENTICITY:** One of my sons manages a pizza restaurant. He is serious about his craft, making sure the dough is freshly prepared, at the correct temperature before spinning, and spun to the correct degree of thinness. Whenever I visit him in the restaurant, I always ask for a “manager’s special” which invariably is very tasty. He firmly believes in very thin crust and a light touch with the cheese and toppings. While he makes wonderful pizzas, he does not have a seal of approval from the Associazione Verace Pizza Napoletana, a nonprofit organization founded in Naples three decades ago to promote and protect what they have defined as true Neapolitan pizza. The organization is similar to other organizations that try to protect the heritage of specific foods or wines. However, the Associazione Verace Pizza Napoletana does not insist that the Neapolitan pizza come from Naples, but that true Neapolitan pizza is made to exacting standards using traditional techniques and very specific ingredients. Obtaining a certificate of approval from the organization is challenging and quite expensive. While the recipe for a classic Neapolitan pizza is quite simple (flour, water, yeast, sea salt, fresh mozzarella, San Marzano tomatoes, and a short cooking time in a very hot oven), the apparent simplicity masks a huge number of steps to achieve the right balance. Pizza makers who want to obtain the seal of approval usually attend a course in Los Angeles that reviews the appropriate texture of the flour (talc-like), how to deftly shape the dough, and even the best way to grind the San Marzano tomatoes. Special wood fired ovens that reach temperatures of 1000 degrees (and are best for cooking the pizza) may cost $25,000. Pizza makers who have gone through the process are convinced of the importance of preparing the recipe properly and describe the pizza as an artisanal product. So far, only 500 pizzerias worldwide and 76 in the US have obtained the seal of approval. Given the costs, I doubt my son will apply for a certificate anytime soon. Still, he does the best he can and regardless of whether he can hang a piece of paper in the store, I still think his pizzas are very, very good indeed.

Noted by WVR, MD
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